

Remarks

Applicants would like to thank the Examiner for the courtesy of conducting a telephonic interview on September 27, 2006 with Applicants' representatives Donald R. Banowit and John T. Haran. The rejections of the claims made in the final office action mailed August 2, 2006 were discussed as well as how the claims were distinguishable from the prior art applied, as discussed below in detail.

Reconsideration of this Application is respectfully requested.

Claims 1-29 and 33 are pending in the application, with claim 1 being an independent claim. Claims 30-32 and 34-37 were previously withdrawn.

The Examiner has rejected claims 1, 28 and 33 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,882,522 to Naito *et al.* (the "Naito patent"). The Examiner has also rejected claims 1-4, 6-19, 23-24, 26-28 and 33 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,805,074 to Harakawa *et al.* (the "Harakawa patent") in view of U.S. Patent No. 6,136,176 to Wheeler *et al.* (the "Wheeler patent") and U.S. Patent No. 6,852,830 to Groenendaal *et al.* (the "Groenendaal patent"). The Examiner has also rejected claims 5-9 under 35 U.S.C. § 103(a) as being unpatentable over the Harakawa patent in view of the Wheeler patent and the Groenendaal patent and further in view of JP 02-218716 to Tanaka *et al.* (the "Tanaka patent"); claims 20-22 under 35 U.S.C. § 103(a) as being unpatentable over the Harakawa patent in view of the Wheeler patent and the Groenendaal patent and further in view of U.S. Patent No. 4,724,053 to Jasne (the "Jasne patent"); and claims 25 and 29 under 35 U.S.C. § 103(a) as being unpatentable over the Harakawa patent in view of the

Wheeler patent and the Groenendaal patent and further in view of U.S. Patent No. 4,839,322 to Yodice (the "Yodice patent").

Applicants traverse each of these rejections. None of the applied references disclose or suggest the claimed method for applying a coating to a surface of a cathode foil for use in an electrolytic capacitor comprising an anode foil, a cathode foil and a separator material therebetween impregnated with an electrically conductive electrolyte.

Solid electrolytic capacitors, such as that disclosed in the Naito and Harakawa patents, typically have a polymeric coating formed on the anode, wherein the polymeric coating acts as both the electrolyte and the cathode. Such arrangements do not include a metal cathode foil. The present invention, on the other hand, is directed to a "wet" electrolytic capacitor. "Wet" electrolytic capacitors typically have a metal foil anode and a metal foil cathode, with a separator material in between the foils that is impregnated with an electrically conductive electrolyte. The present invention is directed to a method for coating the surface of the cathode foil in order to increase the surface area of the cathode and thereby increase the cathode capacitance. To further distinguish the present invention over the cited art, claim 1 was previously amended to specifically recite "a method for applying a coating to a surface of a cathode foil for use in an electrolytic capacitor comprising an anode foil, a cathode foil and a separator material therebetween impregnated with an electrically conductive electrolyte."

The Naito patent appears to disclose a method for producing a solid electrolytic capacitor wherein an anode is subjected to electrolytic polymerization in an aqueous solution having a dissolved monomer, such as ethylenedioxythiophene (EDOT), to form an organic semiconductor (cathode) in the form of a polymer, such as

polyethylenedioxythiophene. See col. 1, lines 14-16; col. 7, lines 62-66; and col. 8, lines 32-39. There is no disclosure or suggestion in the Naito patent of applying a PEDOT polymer coating to a surface of a cathode foil that is used in an electrolytic capacitor comprising an anode foil, a cathode foil and a separator material therebetween impregnated with an electrically conductive electrolyte.

The Naito patent does not teach each and every element of claim 1 because the Naito patent discloses a PEDOT polymer coating formed on an anode rather than a cathode. Further to the extent the PEDOT polymer coating acts as the cathode in the solid electrolytic capacitor in the Naito patent, such disclosure teaches away from the claimed invention of coating a surface of a cathode foil that is used in an electrolytic capacitor comprising an anode foil, a cathode foil and a separator material therebetween impregnated with an electrically conductive electrolyte. Accordingly, the Naito patent, whether alone or in combination with any of the other cited references, does not anticipate or render obvious independent claim 1.

The Harakawa patent appears to disclose a method for manufacturing a solid electrolytic capacitor using a polymer layer of an organic semiconductor, such as thiophene, as a solid electrolyte. See col. 1, lines 6-12. An aluminum foil (anode) has an oxide layer formed thereon and is then dipped into an electrolyte solution containing a heterocyclic monomer, such as thiophene, and the dipped anode undergoes electrochemical polymerization to form a polymer coating on the anode, such as polythiophene. See col. 6, lines 7-21 and col. 9, lines 3-7. The Harakawa patent provides no suggestion or motivation to apply a PEDOT polymer coating to a surface of a cathode foil that is used in an electrolytic capacitor comprising an anode foil, a cathode

foil and a separator material therebetween impregnated with an electrically conductive electrolyte.

The Harakawa patent provides no suggestion or motivation to apply a PEDOT polymer coating to a surface of a cathode foil that is used in an electrolytic capacitor comprising an anode foil, a cathode foil and a separator material therebetween impregnated with an electrically conductive electrolyte, as claimed. The Examiner admits that the Harakawa patent does not disclose the use of ethylenedioxythiophene, as claimed. Further, to the extent the polymer coating disclosed in the Harakawa patent acts as the cathode in the solid electrolytic capacitor in the Harakawa patent, such disclosure teaches away from the claimed invention of coating a surface of a cathode foil that is used in an electrolytic capacitor comprising an anode foil, a cathode foil and a separator material therebetween impregnated with an electrically conductive electrolyte. Neither the Wheeler patent, nor the Groenendaal patent, provides motivation or suggestion to modify the disclosure of the Harakawa patent to arrive at the claimed invention. The Wheeler patent appears to disclose applying a PEDOT polymer coating to an anode (see col. 3, lines 50-55) and does not provide any suggestion or motivation to apply a PEDOT polymer coating to a surface of a cathode foil. The Groenendaal patent appears to disclose a process for the electrochemical polymerization of thiophene compounds (see col. 14, lines 27-28) and does not provide any suggestion or motivation to apply a PEDOT polymer coating to a surface of a cathode foil. Accordingly, the Harakawa patent, whether alone or in combination with any of the other cited references, does not anticipate or render obvious independent claim 1.

For at least the above reasons, independent claim 1 and claims 2-29 and 33 which depend therefrom, are patentable. Applicants respectfully request that the Examiner reconsider the rejections of these claims and that these rejections be withdrawn.

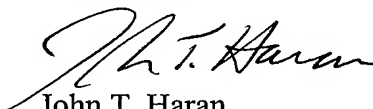
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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